

CLAIMS

- 1 - "KERATOMETRIC MODULE FOR COUPLING TO SLIT LAMPS AND OR OCULAR MICROSCOPES"**, characterized by an ophthalmic instrument constructed for coupling to instrument (1) – Slit Lamp or Ocular Microscope – which uses the image to selectively measure the curvature of the cornea and examine its surface under the examination mode of the instrument in reference, constituted of a ring (2) or mask projected by light, and by an observation device of the image reflected by the reflective surface. The ring or mask (2), coupled to the objective lens or any fore part of the Slit Lamp (1), on projection axis A, allows the passage of light through axes A and B, reflected on the patient's cornea or reflective surface, allowing the image of this ring or illuminated mask to be reflected by the cornea or reflective surface. A partial beam deviation system (3) is inserted between the projection axis and reception axis A on the eyepiece and axis B, and is composed by prisms and/or semi-transparent mirror that deviates the reflected image from the projection ring (2) on the positioned patient's eye (7) to axis A to the eyepiece lenses (8) of the instrument (1) and to axis B, to the image sensor (4) and observation apparatus (6) – video screen. The ring (2) is focused on the patient's eye in position (7) by the joystick (9) of the instrument (1), which allows moving it in directions X, Y and Z of the Cartesian plane, and be observed in real time at positions (8) and (6). An eye sensor (5) is placed at one of the instrument (1) ends along axis C, equipped with light signal emitters and receivers (5a) and (5b), and a hole for the power supply cables. The eye sensor (5) is controlled by the microcomputer. The emitter (5a) emits a signal that reaches

the instrument's (1) frame, which, if positioned at the same end of the emitter (5a) along axis C, reflects the emitted signal by the respective emitter (5a) and is received by the sensor (5b) whose signal reception indicates the position of the instrument (1) and thus indicates the eye (7a) that is being measured. The absence of signal in sensor (5b), - signal not reflected by the instrument (1) - indicates that the opposite eye is the one being measured.

2 - "KERATOMETRIC MODULE FOR COUPLING TO SLIT LAMPS AND OR OCULAR MICROSCOPES", according to claim 1, it is characterized by a light ring (2) that has a central circular aperture (11) flashing or not, two holes (12a and 12b) for allowing observation through two eyepiece lenses of the Slit Lamp (1) and several holes (13), more than 5 in number, placed in precise circular shape, around the central aperture (11). Various light sources (13a) are inserted in the holes (13), one source for each hole, and when the lights are activated, the light coming from these holes reach the patient's cornea, projecting an image right behind it, which is reflected by one of the patient's eyes (7a), the same occurring for the other eye (7b) when the equipment is positioned for it, being that this reflected light is the image that passes through the instrument (1) and reaches the image viewing apparatus composed by a video sensor (4), information forwarding system to microcomputer (video transmission board or cable) (4a) and micro computer screen (6) coupled to the micro computer, and alternatively, a ring (2) being like a light ring 2b (figure 2), which is a luminous ring in precise continuous circular shape.